

### Abstract of the Disclosure

An apparatus and a method for scrambling and descrambling data wordwise in an optical disk system are provided. The apparatus includes a bit storing means which stores at least 15 bits, and a calculating means which calculates first through fifteenth bits of the bit storing means in parallel during one clock cycle and inputs the results of the calculation back into the bit storing means. The calculating means performs an XOR logic operation on a seventh bit and a fifteenth bit, on a first bit, an eighth bit, and a twelfth bit, on a second bit, a ninth bit, and a thirteenth bit, on a third bit, a tenth bit, and a fourteenth bit, on a fourth bit, an eleventh bit, and a fifteenth bit, on the first bit and a fifth bit, on the second bit and a sixth bit, on a third bit and the seventh bit, on the fourth bit and the eighth bit, on the fifth bit and the ninth bit, on the sixth bit and the tenth bit, on the seventh bit and the eleventh bit, on the eighth bit and the twelfth bit, on the ninth bit and the thirteenth bit, and on the tenth bit and the fourteenth bit, and inputs the results of the XOR logic operations into the bit storing means.

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